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TITLE: Alignment charts for determining the escape angles of nuclear reaction products.

TOPIC TAGS: parametric escape-angle equations, Sorean equations, projective transformation of coordinates, escape-angle alignment chart, alignment-chart design

ABSTRACT: The alignment method is seldom used for nomographic representation of kinematic relationships in nuclear reactions. In studying the dependence between angles of escape of particles this method can be applied because of the Sorean equations can be used there to describe the process. The design alignment charts for determining the escape angles of outgoing particles in a two-particle nuclear reaction are presented. The dependence between the particle-escape angles is expressed by parametric equations in canonic Cachy's form which are used as independent variables in constructing the alignment chart in the following manner: 1. construction of separate charts for each equation, 2. superposition of these

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charts in a certain manner to obtain the resulting one. From corresponding Sorean equations the scale moduli of alignment charts are determined and the component charts, as well as the resulting one, are constructed. The use of this alignment chart is explained. In order to represent the alignment chart in a form more suitable for practical use a projective transformation of coordinates is applied. As a result, a simplified and more flexible alignment chart is obtained and its advantageous features are discussed. There are 2 graphs.

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